

REMARKS

The issues outstanding in the Office Action mailed June 17, 2003, are the objections to the claims, and the rejections under 35 U.S.C §102 and 103. Reconsideration of these issues, in view the following discussion is respectfully requested.

Objection to Claims

The Examiner is thanked for pointing out the misspelling in claim 1. Appropriate correction has been made, and withdrawal of the objection is respectfully requested. Minor typographical errors have also been corrected in claims 27 and 32.

Rejections Under 35 U.S.C §102

Claims 1-14 and 51-53 are rejected under 35 U.S.C §102(b) over Meissner '638. Reconsideration of this rejection is again respectfully requested.

It is respectfully maintained that Meissner does not disclose materials having a "low temperature bonding area" nor materials which are joined by means of a low temperature bonding method. While it is submitted that the "low temperature" bonding technique is distinct from that of Meissner, it is recognized that the Examiner maybe somewhat confused by the apparent indication in Meissner that lower temperatures are used therein, than employed previously. It is submitted that such confusion stems from the fact that, at the time, Meissner may have thought the technique was "low temperature", but the present technique enables even *lower* temperatures and thus is an improvement over the patented technique. In any event, in order to clarify the invention, and to further emphasize the low temperature nature of the present technique, claim 1 has been amended as supported, e.g., in the present specification at page 3, lines 5-13.

Instead of a low temperature bonding area, Meissner discloses, for example at column 7, lines 28-43, bonding by rearrangement of hydrogen bonds such that diffusion occurs. In particular, patentees indicate that surfaces are drawn together by molecular attractive forces, and diffusion occurs in which hydroxyl groups condense and form metal-oxygen-metal bonds, while water of condensation diffuses out along the interface. See column 7, as cited *supra*. Thus, it can be seen that Meissner does not disclose an interlayer of a cured solution between the surfaces. Even where "wet" surfaces are disclosed, see column 12, lines 1-17, it

is clear that any wetting fluid, such as water, is displaced by the bonding. A cured interlayer is therefore not produced; moreover, water could not produce a cured interlayer.

In addition, with respect to claims 51+ it is again submitted that Meissner does not disclose a three-dimensional waveguide structure. While it is argued, at page 3 of the Office Action, that patentees disclose a waveguide, such a block of glass with a waveguide is *not* a three-dimensional waveguide structure. For example, patentees explicitly define the device shown in Figure 3 to be a "planar" waveguide structure, see column 15, lines 54-57 of the patent. In order to provide further clarification of, for example, claim 51, the claim has been amended in order to indicate that the waveguide portions are perpendicular to each other, as is the case with a three-dimensional waveguide. See present Figure 3. As a result, it is submitted that it is quite evident that the patent does not anticipate claim 51 and claims dependent thereon.

In conclusion, it is submitted that Meissner fails to anticipate the rejected claims, withdrawal of the rejection under §102 is respectfully requested.

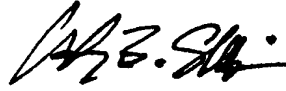
Claims 15-50 and 54 have also been rejected under 35 U.S.C §103 over Meissner taken with "official notice." Claims of this group recite photonic devices, and are either directly or indirectly dependent upon claim 1, with the exception of claim 54 which is dependent upon claim 51. It is respectfully submitted that, in view of the foregoing discussion, in the absence of Meissner suggesting either a three-dimensional waveguide or a cured interlayer of solution, it would not have been obvious to modify the disclosure in the manner suggested. To the extent that "official notice" is relied upon in the Office Action, it is submitted that the Office Action should support such official notice by citing literature references disclosing what is alleged to be taught, or a declaration under §104.

Finally, claims 55-57 has been rejected under 35 U.S.C §103 over Meissner. Reconsideration of this rejection is also respectfully requested. These claims recite a low temperature bonding area comprising a condensed phosphate layer. It is argued that condensed phosphate layers are "well-known for bonding optical elements." Applicants' respectfully, albeit quite strenuously, disagree with this assertion, and invite the Examiner to cite a reference for this aspect. It is submitted that, with the exception of the background material cited in the present specification, which are not references against the present application, such a layer is unknown. (The background material cited at pages 1 and 2 of the present application are the priority applications to the present application.)

The claims of the application are submitted to be in condition for allowance. However, should the Examiner have any questions or comments, he is cordially invited to telephone the undersigned at the telephone number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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FILED: October 17, 2003

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